Operable Unit 6

ELMENDORF AIR FORCE BASE, ALASKA

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Active Operable Unit 6 North Source Areas: LF04, WP14, SD15.

Active Operable Unit 6 South Source Areas: LF02.

Closed Operable Unit 6 South Source Areas: LF03, SD73.

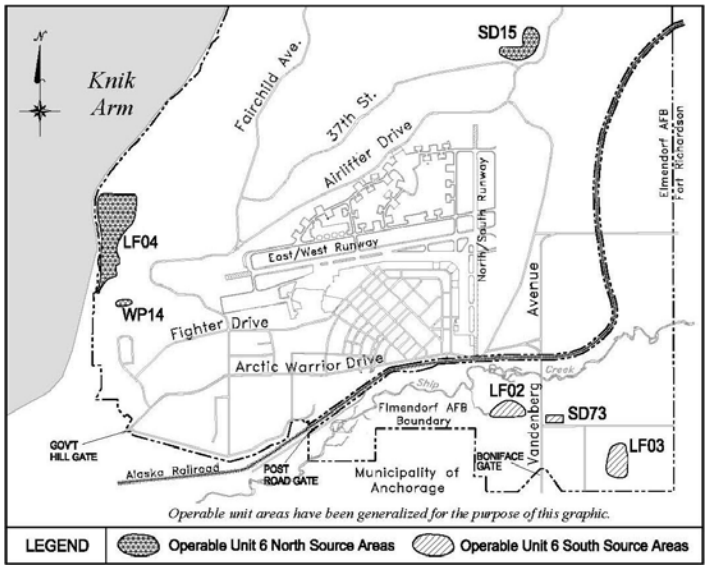
Contaminant Sources: Landfills; petroleum, oil, and waste lubricant disposal; chemical storage.

Medium Affected: Groundwater, soil, surface water.

Contaminants of Concern Outlined in the Operable Unit 6 Record of Decision: *Operable Unit 6 North Groundwater:* 1,2-dichloroethane, methylene chloride, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, trichloroethene, benzene, ethylbenzene, and toluene. *Operable Unit 6 North Soil:* Exposed landfill debris, gasoline-range organics, diesel-range organics, benzene, ethylbenzene, toluene, and xylenes. *Operable Unit 6 South Groundwater:* 1,1,2,2-tetrachloroethane. *Operable Unit 6 South Soil:* Exposed landfill debris and lead.

Status: Groundwater monitoring is conducted at LF02, LF04, WP14, and SD15. Beach sweeps are performed to remove debris at LF04 and soil at SD15 is being treated via high-vacuum extraction process. Land use controls restrict use of shallow groundwater.

Key Milestones	
ACTIVITY	***DATE***
Federal Facilities Agreement Signed	November 1991
Management Plan	March 1, 1993
Remedial Investigation / Feasibility Study	December 7, 1995
Record of Decision	January 27, 1997
Remedial Design / Action Scope of Work	April 15, 1997
Remedial Design Completion, OU6 South	September 15, 1997
Remedial Design Completion, OU6 North	November 30, 1997
Remedial Action Start, OU6 South	September 13, 1997
Remedial Action Start, OU6 North	December 11, 1996
Remedial Action Report	May 15, 1998
First Five-Year Remedy Review	October 20, 1998
Second Five-Year Remedy Review	December 17, 2003



Site Description

Location: Operable Unit 6 North consists of three source areas (LF04, SD15, and WP14) located north of the Elmendorf Moraine. LF04 is an old landfill that was used from 1945 to 1957. SD15 and WP14 are old petroleum, oil, and waste lubricant disposal sites. Operable Unit 6 South consists of three source areas located south of Ship Creek (LF02, LF03, and SD15). LF02 and LF03 are old abandoned landfills. SD73 is an area that consists of surface drains in a building once used as a rock testing laboratory and a surface disposal area next to the building.

Contamination Overview: The Operable Unit 6 Record of Decision was signed in January, 1997. The selected remedies for Operable Unit 6 North include groundwater sampling at LF04, SD15, and WP14, free product recovery at WP14, debris removal on the beach adjacent to LF04, and soil treatment at SD15 by high-vacuum extraction process. Additionally, land use controls at LF04, SD15, and WP14 prohibit the use of the shallow aquifer.

The selected remedies for Operable Unit 6 South include applying a limited cover in three areas with lead at LF02, removing landfill debris protruding from the ground surface at LF02, recovering free product at LF04 when present, and monitoring groundwater. Additionally, land use controls at LF02, LF03, and SD73 prohibit the use of the shallow aquifer.

Contaminants of Concern

Groundwater: Contaminants including fuel-related chemicals, solvents, pesticides, and metals were detected in the shallow aquifer, which is not used as a water supply.

Soil: Lead was an original contaminant of concern. Because the areas where lead was identified have been buried under protective cover, lead levels are no longer monitored.

Surface Water: Benzene, total aromatic hydrocarbons, and total aqueous hydrocarbons have been added as contaminants of concern since the Record of Decision was signed. Analyses for total aqueous hydrocarbons have not yet been collected.

Maximum contaminant concentrations and the source areas where they occur are summarized in Table 1.

Table 1. Current Contaminants of Concern

Source Area	*Contaminant*	*Maximum Concentration*	*Current Concentration*	*Cleanup Levels*
Groundwater (micrograms per liter)				
LF02	1,1,1,2-Tetrachloroethene	**10.8**	**2.6**	0.43
SD15	Benzene	**1,430**	**100**	5
	Trichloroethene	**143**	**13**	5
WP14	Benzene	**170**	**87**	5
Surface Water (micrograms per liter)				
LF04	Benzene	**367**	**70**	5
	Total Aromatic Hydrocarbons	**710**	**710**	10
Soil (milligrams per kilogram)				
SD15	Gasoline-range Organics	**5,400**	**2,200**	1,000
	Diesel-range Organics	**10,000**	**8,800**	2,000

Bold font indicates that the concentration exceeds cleanup levels.

Potential Pathways and Receptors

Operable Unit 6 North sites are located in relatively remote areas of the Base which are used for recreational activities. Under current site use, direct exposure to contaminated groundwater is not possible because land use controls prohibit the use of water from the shallow aquifer. At LF04, groundwater does emerge as surface water at seeps along the bluff, creating possible pathways or routes for exposure to contamination. Contaminated groundwater at SD15 is thought to be a perched aquifer and is therefore not in contact with other groundwater aquifers.

The receptor and pathway scenario for groundwater at WP14 differs from those for other Operable Unit 6 source areas. At WP14, at least two aquifers were encountered during the remedial investigation, both containing various chemicals of concern. Groundwater contamination is known to be flowing downslope to LF04. Human activity in this area is limited to maintaining fuel and oil lines that cross the site and recreational walking. Moderate surface and subsurface soil contamination is present at LF04, SD15, and WP14. Completed pathways exist for both human and animal receptors because contaminants are present in the surface or near surface soils.

Direct exposure to contaminated groundwater at Operable Unit 6 South is not possible because land use controls prohibit the use of water from the shallow aquifer. Moderate surface and subsurface soil contamination is present and completed pathways exist for both human and animal receptors.

Summary

Groundwater, soil, and surface water contamination exist at Operable Unit 6. Completed pathways exist for both human and animal receptors at Operable Unit 6 North and South. However, due to the remote location of these sites and their "restrictive use area" designation under land use controls, the possibility of an adverse human exposure is minimal.

The recent five-year review determined that the remedies selected at Operable Unit 6 are protective of both human health and the environment. As such, the selected remedies shall remain until cleanup standards are reached.

Information Repositories

Documents associated with these project activities are available for public review at:

Elmendorf Library
3rd Services Squadron
10480 22nd Street
Elmendorf AFB, AK 99506
(907) 552-3787

Alaska Resources Library & Information Services (ARLIS)
3211 Providence Drive
Anchorage, AK 99508
(907) 272-7547

For additional information, please contact 3rd Wing Public Affairs by telephone at (907) 552-8970, or at 10480 22nd Street, Suite 118, Elmendorf AFB, AK 99506-2500.